

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Applicants: M.A.K. Alicherry et al.
Case: 6-3
Serial No.: 10/722,651
Filing Date: November 26, 2003
Group: 2128
Examiner: David Silver

Title: Methods and Apparatus for
Line System Design

REMARKS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicants request review of the final rejection, dated July 17, 2008, in the above-identified application. No amendments are being filed with this request. A Notice of Appeal is submitted concurrently herewith.

The present application was filed on November 26, 2003 with claims 1-29. Claim 10 was canceled in a previous amendment. Claims 1-9 and 11-29 remain pending. Claims 1, 8, 11, 15, 22, 25 and 29 are the pending independent claims.

Claims 1-9 and 11-29 are rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. Claims 1-7, 9, 14-21, 23, 24 and 26-29 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0061701 (hereinafter "Arquie"). Claims 8, 11, 22 and 25 are indicated as having allowable subject matter.

In a previous amendment, Applicants amended claim 12 to depend from independent claim 11, rather than canceled claim 10. The Examiner asserts that such amendment significantly alters the scope of the amendment. Although the Examiner correctly indicates that canceled claim 10 was dependent on claim 1, whereas claim 11 is independent, it is important to note that originally-filed claim 11 was dependent from claim 10, and was subsequently rewritten in independent form including the limitations of claim 10, and hence claim 1. Accordingly, the proposed amendment of claim 12 to depend from claim 11 rather than claim 10 is believed to not require any further consideration and/or search, much less to raise issues of whether amended claim 12 complies with 35

U.S.C. §112 or is drawn to a separate invention. Accordingly, Applicants respectfully submit that claim 12 should also be indicated as containing allowable subject matter at least by virtue of its respective dependency from claim 11. See, e.g., *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (holding that if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious)

With regard to the §101 rejection of claims 1, 8 and 11, each of which is directed to “a method of designing a line system,” the Examiner’s rejection relies on the “useful, concrete and tangible result” test described in MPEP 2106. Applicants respectfully note that the Federal Circuit has recently repudiated this test. See *In re Bilski*, No. 2007-1130, slip. op. at 20 & n.19 (Fed. Cir., Oct. 30, 2008) (“[W]e also conclude that the ‘useful, concrete and tangible result’ inquiry is inadequate and reaffirm that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply. As a result, those portions of our opinions in *State Street* and *AT&T* relying solely on a ‘useful, concrete and tangible result’ analysis should no longer be relied on.”) (emphasis in original).

Rather, there is “a definitive test to determine whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself. A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.” *id.* at 10 (emphasis in original). See also *id.* at 23 (“The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.”)

Applicants respectfully submit that, although it is sufficient that one of the two branches of this machine-or-transformation test be satisfied, claims 1, 8 and 11 in fact satisfy both branches of this test. Specifically, each of claims 1, 8 and 11 specifically recite that the method comprises a computer performing the enumerated steps, and hence are “tied to a particular machine” namely, a computer. See, e.g., *id.* at 30 (citing *In re Comiskey*, 499 F.3d 1365, 1379 (Fed. Cir. 2007)) (noting that the Federal Circuit has consistently rejected process claims like those in *Bilsky* and in *Comiskey* as unpatentable under § 101 because “these claims do not require a machine”).

Turning now to the transformation branch, we note that the Federal Circuit stated that when a “claimed process is limited to a practical application of a fundamental principle to transform specific

data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.” *In re Bilski*, slip. op. at 26. See also *id.* at 30 (indicating that patentable claims “involve the transformation of any physical object or substance, or an electronic signal representative of any physical object or substance.”)

In the present case, claims 1, 8 and 11 include limitations directed to “specifying a line system design,” which involves the transformation of “an electronic signal representative of any physical object,” and “representing the line system design as a graph in accordance with a graph coloring operation,” which is “a visual depiction that represents specific physical objects.” For example, in an illustrative embodiment, the line system design may correspond to the optical line system shown in FIG. 1 and described in the specification at, for example, page 1, lines 16-23.

With regard to the §101 rejection of claims 15, 22 and 25, Applicants initially note that each of these claims is directed to an apparatus for designing a line system, the apparatus comprising a memory and at least one processor coupled to the memory and configured to perform certain operations. In the Advisory Action at page 2, second paragraph, the Examiner concedes that “one having skill in the art would clearly understand that a processor performs operations by executing stored instructions,” then argues that “whether one understands that a processor performs operations by executing instructions does not add merit that the language of ‘configured to’ means an active step of performing instruction execution.”

Applicants respectfully submit that the Federal Circuit has held that “programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software. . . . Consequently, a computer operating pursuant to software may represent patentable subject matter. . . .” *In re Alappat*, 33 F.3d 1526, 1545, 31 USPQ2d 1545, 1558 (Fed. Cir., 1994). Accord. *Aristocrat Techs. Australia Pty. Ltd. v. Intl. Game Tech.*, No. 2007-1419, slip op. at 8 (Fed. Cir. March 28, 2008). As such, the recited “processor configured to” perform specified operations by executing stored instructions represents patent-eligible subject matter.

Regarding the §101 rejection of claim 29, Applicants respectfully submit that “an article of manufacture for designing a line system, comprising a machine readable storage medium containing one or more programs which when executed implement” a patentable process constitutes a proper

claim of statutory subject matter. See, e.g., *In re Beauregard*, 53 F.3d 1583; 35 USPQ2d 1383 (Fed. Cir. 1995); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

The Examiner indicates that certain claim limitations have not been given patentable weight. Applicants respectfully submit that the Examiner's failure to consider these limitations is improper and constitutes piecemeal examination of the sort specifically prohibited by MPEP 707.07(g). See also *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art.")

The Examiner characterizes the limitations of claim 1 which recite (emphasis in original) "obtaining a set of one or more demands *for use in computing the line system design*," and "representing the line system design as a graph in accordance with a graph coloring operation wherein . . . the one or more demands are routed *so as to attempt to achieve a minimum total design cost*," as being drawn to intended use and hence not given patentable weight.

In making this assertion, the Examiner relies upon *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003), as cited in MPEP 2111.04. However, it should be noted that the MPEP section in question reads, in relevant part:

The determination of whether each of these clauses [e.g., 'adapted to,' 'adapted for,' 'wherein,' and 'whereby' clauses] is a limitation in a claim depends on the specific facts of the case." In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court acknowledged (quoting *Minton*, 336 F.3d at 1381, 67 USPQ2d at 1620) that a "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited," but then held that when a whereby "clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention."

Indeed, Applicants respectfully submit that the claim limitations at issue is analogous to that upheld in *Hoffer*, in which the whereby clause described "a network of users at multiple remote user terminals who are 'collectively able to concurrently engage in interactive data messaging.' This capability is more than the intended result of a process step; it is part of the process itself." 405 F.3d at 1329, 74 USPQ2d at 1483. Thus, these limitations should be afforded patentable weight, as they recite parts of the process itself rather than simple expressions of intended results of process steps.

Moreover, these clauses state conditions that are material to patentability. Applicants note that a claim is anticipated "only if each and every element as set forth in the claim is found, either

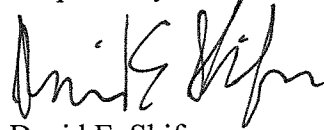
expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the reference must show the “identical invention . . . in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

In this case, Applicants assert that Arquie clearly fails to teach or even suggest each and every limitation of the claims, including those limitations which the Examiner fails to give patentable weight. For example, Arquie does not disclose the limitation recited in claim 1 directed to representing a line system design as a graph in accordance with a graph coloring operation wherein colors represent bandwidths such that bandwidths are assigned and the one or more demands are routed so as to attempt to achieve a minimum total design cost.

The final Office Action cites paragraph [0013] of Arquie for the purpose of suggesting that “adding color [] such that particular performance ranges are essentially color-coded” teaches or suggests the claim limitation. However, this portion of Arquie completely fails to teach or suggest the claim limitation. That is, Arquie mentions nothing about colors representing bandwidths such that bandwidths are assigned and the one or more demands are routed so as to attempt to achieve a minimum total design cost.

Independent claims 8, 11, 15, 22, and 25 are believed to be patentable for at least the reasons similar to those recited above with reference to claim 1. Dependent claims 2-7, 9, 12-14, 16-21, 23, 24 and 26-29 are also believed patentable at least by virtue of their respective dependencies from their base claims.

Respectfully submitted,



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